

REMARKS/ARGUMENTS

Claims 1–8 are pending in the application.

Claims 1–8 were rejected in the Office action.

Claims 1–6 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Independent claims 1, 3 and 5 are currently amended to overcome the rejection. Claim 2 is dependent upon claim 1; claim 4 is dependent upon claim 3; claim 6 is dependent upon claim 5. Applicants submit that the indefiniteness rejection of claims 1–6 has been overcome by the currently amended claims.

Claims 1–4 were rejected under 35 U.S.C. 102(b) as being clearly anticipated by McKibben (US 1,971,195).

Applicants point out that McKibben teaches a chamber wall consisting of a singular material, namely, "a suitable non-ferrous, non-magnetic metal having a high electrical conductivity such as copper, aluminum, etc." (page 1, col. 2, lines 80–82). With respect to structural support of the wall, McKibben teaches only that the wall of suitable non-ferrous, non-magnetic metal will be sufficiently thick to provide strength to withstand the air pressure of the atmosphere incident to the evacuation of the furnace:

"As a general proposition, the thickness, of the materials at present available with the requisite properties, will be great enough due to the considerations of strength that they will greatly exceed the minimum depth of penetration figure which is obtained for a particular furnace from the equation described above." (page 2, col. 1, lines 26–33)

Pending independent claims 1 and 3 recite in part, that at least a portion of the wall comprises an inner layer of a copper composition and an outer layer providing a means of structural support for the wall. McKibben does not teach the claimed composite wall of an inner and outer layer as recited in claims 1 and 3; McKibben teaches away from such composite arrangements by explicitly stating that the singular, non-composite, non-ferrous, non-magnetic wall will be of sufficient thickness to provide strength to withstand the vacuum inside the chamber.

For anticipation a single reference must disclose each of the claimed elements. Applicants submit that McKibben does not disclose the claimed composite wall of an

inner and outer layer, and therefore, claims 1 and 3 are not anticipated by McKibben.

Claim 2 is dependent upon claim 1, and claim 4 is dependent upon claim 3. For the reasons set forth above, Applicants submit that claims 2 and 4 are not anticipated by McKibben.

Claims 5-8 were rejected under 35 U.S.C. 103(a) as being unpatentable over McKibben in view of W.O. Krebs (US 1,940,256).

McKibben is discussed above.

W.O. Krebs teaches a chamber 6 within which a charge of metal M is placed. Chamber 6 is formed from refractory lining 5', which in turn is surrounded by clay or other filling material 5". Filling material 5" is contained within metal jacket 7. W.O. Krebs does not suggest using metal jacket 7 as a susceptor that is inductively heated by ac current flowing through induction coil 8 to heat charge M placed within chamber 6. W.O. Krebs only teaches inducing a heating current in charge M. W.O. Krebs teaches away from using metal jacket 7 as a susceptor since use of intervening materials between chamber 6 and the metal jacket, namely refractory lining 5' and filling material 5", would inhibit heat transfer from the metal jacket to charge M.

Applicants submit that the combined teachings of McKibben and W.O. Krebs do not suggest a vacuum chamber in which a susceptor is disposed wherein at least a portion of the wall of the vacuum chamber comprises an inner layer of a copper composition and an outer layer providing a means of structural support for the wall as recited in part in independent claims 5 and 7, and therefore, claims 5 and 7 are not obvious over McKibben in view of W.O. Krebs.

Claim 6 is dependent upon claim 5, and claim 8 is dependent upon claim 7. For the reasons set forth above, Applicants submit that claims 6 and 8 are not obvious over McKibben in view of W.O. Krebs.

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Applicants respectfully requests allowance of all pending claims.

Respectfully submitted,

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